

MULTI-LIGHT-SOURCE ILLUMINATION SYSTEM FOR OPTICAL POINTING DEVICES

ABSTRACT OF THE DISCLOSURE

[0077] In one embodiment of an optical pointing device, an illumination system includes a plurality of light sources. Each light source is characterized by a unique set of illumination characteristics. Illumination characteristics include impinging angle, light wavelength, light homogeneity, and the like. A sensor receives electromagnetic energy originating at the light source to scan an imaged area. The sensor measures performance indexes associated with the light sources, which depend on the illumination characteristics. The sensor includes an imaging module, which may include passive filters, and control logic, which includes at least a DSP module and a light sensor selection module. Another embodiment includes additional signaling light sources that do not interfere with the illumination system and are for signaling to the user. A method to select the most adequate light source for any given surface is based on measured performance indices.